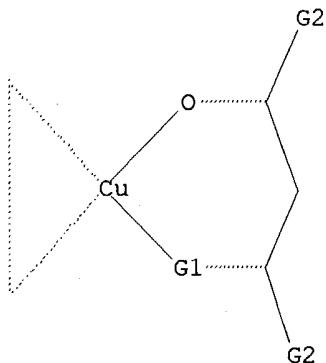


10/168,370

(FILE 'HOME' ENTERED AT 11:12:53 ON 01 SEP 2004)

FILE 'REGISTRY' ENTERED AT 11:13:11 ON 01 SEP 2004
L1 STRUCTURE uploaded

=> d l1
L1 HAS NO ANSWERS
L1 STR



G1 O, N
G2 Me, Et, n-Pr, i-Pr, Ph, CF₃, CC₁3, CBr₃, MeO, EtO, n-PrO, i-PrO

Structure attributes must be viewed using STN Express query preparation.

=> s l1
SAMPLE SEARCH INITIATED 11:13:44 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 607 TO ITERATE

100.0% PROCESSED 607 ITERATIONS 14 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 10662 TO 13618
PROJECTED ANSWERS: 56 TO 504

L2 14 SEA SSS SAM L1

=> s l1 full
FULL SEARCH INITIATED 11:13:51 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 13013 TO ITERATE

100.0% PROCESSED 13013 ITERATIONS 316 ANSWERS
SEARCH TIME: 00.00.01

L3 316 SEA SSS FUL L1

=> fil caplus
COST IN U.S. DOLLARS SINCE FILE TOTAL
FULL ESTIMATED COST ENTRY SESSION
155.42 155.63

FILE 'CAPLUS' ENTERED AT 11:13:57 ON 01 SEP 2004
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FILE COVERS 1907 - 1 Sep 2004 VOL 141 ISS 10
FILE LAST UPDATED: 31 Aug 2004 (20040831/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s 13
L4 455 L3

=> s 14 and acetylene
61769 ACETYLENE
L5 11 L4 AND ACETYLENE

=> d 1-11 bib abs

L5 ANSWER 1 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:984244 CAPLUS
DN 140:349537
TI Mono- and bimetallic copper(I)- and silver(I)-phosphine complexes with β -diketonate units
AU Lang, H.; Leschke, M.; Melter, M.; Walfort, B.; Koehler, K.; Schulz, S. E.; Gessner, T.
CS Fakultaet fuer Naturwissenschaften, Institut fuer Chemie, Lehrstuhl Anorganische Chemie, Technische Universitaet Chemnitz, Chemnitz, Germany
SO Zeitschrift fuer Anorganische und Allgemeine Chemie (2003), 629(12-13), 2371-2380
CODEN: ZAACAB; ISSN: 0044-2313
PB Wiley-VCH Verlag GmbH & Co. KGaA
DT Journal
LA German
AB The reaction of $[(\eta^2\text{-Me}_3\text{SiC.tplbond.CSiMe}_3)\text{CuBr}]_2$ (1) with 2 equivalent of $[\text{M}(\text{O}-\text{O})]$ [$\text{M} = \text{Na, Ag}$; $\text{O}-\text{O} = \text{acac, 2a/3a; 1,1,1,5,5,5-}$ hexafluoroacetylacetone (hfac), 2b/3b; = 2,2,6,6-tetramethyl-3,5-heptanedionate (tehe), 2c/3c; 1,3-diphenyl-1,3-propandionate (dipa), 2d/3d; 2-methyl-4-pyronate (mepy), 2e/3e; troponolate (trop), 2f/3f] affords $[(\eta^2\text{-Me}_3\text{SiC.tplbond.CSiMe}_3)\text{Cu(O-O)}]$ (4a, acac; 4b, hfac; 4c, tehe; 4d, dipa; 4e, mepy; 4f, trop), which further reacts with PR_3 ($\text{R} = \text{C}_6\text{H}_4\text{CH}_2\text{NMe}_2\text{-}2\text{-}2\text{-}3$) (5) to give the phosphane Cu(I) β -diketonato complexes $[(\text{R}_3\text{P})\text{Cu(O.intrsec.O)}](\text{O-O} = \text{acac, 6a; hfac, 6b; tehe, 6c; dipa, 6d; mepy, 6e; trop, 6f})$ via replacement of $\text{Me}_3\text{SiC.tplbond.CSiMe}_3$. Complexes 6a-6f are also formed, when 5 is reacted with equimolare amounts of CuCl (7) and then with Na(O-O) (2). Using the Ag salt $\text{Ag}_2(\text{O}_2\text{-O}_2)$ ($\text{O}_2\text{-O}_2 = 1,4\text{-benzochinoate (benz), 9a; = 1,4\text{-anthrachinoate (anth), 9b}}$) instead of 2 or 3, then homobimetallic complexes of type $[(\text{R}_3\text{P})\text{Cu(O}_2\text{-O}_2\text{)}\text{Cu(PR}_3)]$ ($\text{O}_2\text{-O}_2 = \text{benz, 10a; anth, 10b}$) are accessible in which two copper(I) phosphine building blocks are spanned by the π -conjugated organic bridging unit $\text{O}_2\text{-O}_2$. The reaction of 3 with 5 in the ratio of 1:1 produces the phosphine-stabilized Ag(I) complexes

$[(R_3P)Ag(O-O)]$ ($O-O = acac$, 11a; $mepy$, 11b; $trop$, 11c). Homobimetallic $[(R_3P)Ag(O_2-O_2)Ag_2(PR_3)]$ ($O_2-O_2 = benz$, 12a; $anth$, 12b), which is isostructural to 10, is accessible by treatment of 5 with 0.5 equiv of $Ag_2(O_2-O_2)$ (9). While the resp. Cu(I) complexes 6 and 10 are stable in solution and in the solid-state, it appeared that the appropriate Ag(I) complexes 11 and 12 decompose upon precipitation of Ag on their exposure to light.

The application of 4a and 6c as precursors in the CVD process for the deposition of Cu films on TiN-coated SiO₂ wafers is discussed. The solid-state structure of 6f is reported. Mononuclear 6f crystallizes together with $[(R_3P)CuCl]$ (8) (ratio 6f:8 = 85:15) in the triclinic space group P.hivin.1 with the cell parameters $a = 8.962(2)$, $b = 10.753(3)$, $c = 17.037(5)$ Å, $\alpha = 78.29(2)$, $\beta = 77.12(2)$, $\gamma = 81.220(10)$, $V = 1557.3(7)$ Å³, $Z = 2$ with 4703 observed unique reflections ($R_l = 0.0661$). The Cu(I) ion in 6f possesses the coordination number 4. A boat-like conformation for the 6-membered CuPNCH₂C₂/Phenyl cycle is found and the troponolate ligand is sym. chelate-bound via both O atoms to the Cu(I) ion.

RE.CNT 77 THERE ARE 77 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:946673 CAPLUS
DN 140:331256
TI Synthesis, electronic spectra and solvent-induced reversible dissociation of diphosphine(hexafluoroacetylacetonato)copper(I) complexes
AU Pawlowski, Valeri; Strasser, Andreas; Vogler, Arnd
CS Institut fuer Anorganische Chemie, Universitaet Regensburg, Regensburg,
D-93040, Germany
SO Zeitschrift fuer Naturforschung, B: Chemical Sciences (2003), 58(10),
950-954
CODEN: ZNBSEN; ISSN: 0932-0776
PB Verlag der Zeitschrift fuer Naturforschung
DT Journal
LA English
AB The complexes CuI(P-P)(hfac) with P-P = 1,2-bis(diphenylphosphino)ethane (diphos), 1,3-bis(diphenylphosphino)propane (prophos), 2,2'-bis(diphenylphosphino)-1,1'-binaphthyl (binap) and hfac = hexafluoroacetylacetone were synthesized and spectroscopically characterized. In the solid state or in solns. of nonpolar solvents these compds. are yellow owing to a long-wavelength (hfac → P-P) ligand-to-ligand charge transfer absorption. In coordinating solvents such as CH₃CN the complexes undergo a reversible dissociation according to the equation: Cu(P-P)(hfac) + nCH₃CN .dblharw. [Cu(P-P)(CH₃CN)_n]⁺hfac⁻. While the complexes are not luminescent the ion pairs [Cu(P-P)(CH₃CN)_n]⁺hfac⁻ are emissive at 77 K. The cations and the anions show sep. emissions as indicated by the excitation spectra.

RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:290110 CAPLUS
DN 139:197572
TI Excited state properties of bis(trimethylsilyl)acetylenecopper(I) hexafluoroacetylacetonate. Emission and photodissociation induced by metal-to-ligand charge transfer excitation
AU Kunkely, Horst; Vogler, Arnd
CS Institut fur Anorganische Chemie, Universitat Regensburg, Regensburg,
D-93040, Germany
SO Inorganic Chemistry Communications (2003), 6(5), 543-545
CODEN: ICCOFP; ISSN: 1387-7003
PB Elsevier Science B.V.

DT Journal
LA English
AB The complex CuI(BTA) (hfac) with BTA = bis(trimethylsilyl)acetylene and hfac = 1,1,1,5,5-hexa-fluoroacetylacetone shows a longest-wavelength absorption at $\lambda_{max} = 324$ nm ($\epsilon_{max} = 5400$ M $^{-1}$ cm $^{-1}$) which is assigned to a spin-allowed CuI π (BTA) metal-to-ligand charge transfer (MLCT) transition. The solid complex displays an emission at $\lambda_{max} = 601$ nm which is assumed to originate from the lowest-energy MLCT triplet. In solution MLCT excitation leads to the release of the acetylene with $\Phi = 10^{-4}$ at $\lambda_{irr} = 333$ nm.

RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:123572 CAPLUS
DN 136:192671
TI Manufacture of semiconductor device with copper wiring using CVD and light
IN Ohtsuka, Nobuyuki; Shimizu, Noriyoshi
PA Fujitsu Limited, Japan
SO U.S. Pat. Appl. Publ., 10 pp.
CODEN: USXXCO

DT Patent
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002019131	A1	20020214	US 2001-811525	20010320
	US 6746957	B2	20040608		
	JP 2002057126	A2	20020222	JP 2000-242816	20000810
	DE 10120184	A1	20020228	DE 2001-10120184	20010424
PRAI	JP 2000-242816	A	20000810		

AB A method of manufacturing a semiconductor device has the steps of: (a) preparing a semiconductor substrate formed with an insulating layer having a wiring recess and (b) forming a conductive layer by CVD on a surface of the semiconductor substrate including an inner surface of the wiring recess, while lamp light is applied to the semiconductor substrate, the conductive layer being substantially made of Cu. With this method, Cu wiring having a high adhesion force is formed by CVD.

RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 5 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:691626 CAPLUS
DN 134:17549
TI (η^2 -Alkyne)2CuMe as a Synthetic Tool in the Preparation of Numerous Inorganic and Organic Copper(I) Species
AU Frosch, W.; Back, S.; Rheinwald, G.; Koehler, K.; Pritzkow, H.; Lang, H.
CS Lehrstuhl Anorg. Chem., Inst. Chem., Technische Universitaet Chemnitz, Chemnitz, D-09111, Germany
SO Organometallics (2000), 19(20), 4016-4024
CODEN: ORGND7; ISSN: 0276-7333
PB American Chemical Society
DT Journal
LA English
OS CASREACT 134:17549
AB The application of the heterobimetallic tweezer mol. $\{[Ti](C.tpbond.CR1)2\}CuCH_3$ $\{[Ti] = (\eta^5-C_5H_4SiMe_3)_2Ti$; 1a, R1 = SiMe3; 1b, R1 = tBu} as a synthetic tool in the synthesis of $\{[Ti](C.tpbond.CSiMe_3)_2\}CuOR_2$ [3a, R2 = CH3; 3b, R2 = CH2CH3; 3c, R2 = tBu; 3d, R2 = Ph; 3e, R2 = C6H4tBu-2; 3f, R2 = C6H3(tBu)2-2,6],

$\{[Ti](C.tplbond.CSiMe3)2\}Cu(acac)$ (6), $\{[Ti](C.tplbond.CSiMe3)2\}CuSR2$
 (11a, R2 = C2H5; 11b, R2 = Ph), $\{[Ti](C.tplbond.CSiMe3)2\}CuN(SiMe3)2$ (16),
 $\{[Ti](C.tplbond.CtBu)2\}CuPPh2$ (17), $\{[Ti](C.tplbond.CR1)2\}CuC.tplbond.CR3$
 [R1 = tBu: 19a, R3 = tBu; 19b, R3 = SiMe3; 19c, R3 = (CH2)2CH3; 19d, R3 =
 H; 19e, R3 = Fc; 19f, R3 = C6H4NO2-4; R1 = SiMe3; 20a, R3 = Ph, 20b, R3 =
 CO2Me; 20c, R3 = SiMe3; 20d, R3 = Fc; Fc = (η 5-C5H4)Fe(η 5-C5H5)],
 and $\{[Ti](C.tplbond.CtBu)2\}CuO2C-C.tplbond.CH$ (8) and
 $\{[Ti](C.tplbond.CtBu)2\}CuO2C-C.tplbond.C-Cu\{(tBuC.tplbond.C)2[Ti]\}$ (9) is
 described. In all of these reactions evolution of CH4 is the driving
 force for the formation of the corresponding complexes 6, 8, 9, 16, 17,
 19, and 20. A characteristic feature of the Cu(I) alcoholates 3a-f and
 the Cu(I) amide 16 is the elimination of Me3SiOR2 (for 3) or N(SiMe3)3
 (for 16) to produce the tetranuclear Ti(IV)-Cu(I) acetylides
 $\{[Ti](C.tplbond.CSiMe3)(C.tplbond.CCu)\}2$ (4). The result of the x-ray
 structure anal. of the Cu acetylides 19a and 19f is reported. These
 complexes contain a trigonally planar coordinated 16-valence-electron
 Cu(I) center, comprised of two η 2-coordinated tBuC.tplbond.C groups
 and a η 1-bonded C.tplbond.CtBu (19a) or C.tplbond.C-C6H4NO2-4 (19f)
 entity.

RE.CNT 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 2000:210274 CAPLUS
 DN 132:244841
 TI Copper source precursors and method for chemical vapor deposition of
 copper-based films
 IN Kaloyeratos, Alain E.; Arkles, Barry C.
 PA Gelest, Inc., USA; The Research Foundation of State University of New York
 SO PCT Int. Appl., 50 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000017278	A1	20000330	WO 1999-US20535	19990908
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6037001	A	20000314	US 1998-157236	19980918
US 6066196	A	20000523	US 1998-157901	19980921
AU 9959123	A1	20000410	AU 1999-59123	19990908
DE 19983591	T	20010816	DE 1999-19983591	19990908
JP 2002526651	T2	20020820	JP 2000-574181	19990908
PRAI US 1998-157236	A	19980918		
US 1998-157901	A	19980921		
WO 1999-US20535	W	19990908		
OS MARPAT 132:244841				
AB The precursor includes a mixture of \geq 1 ligand-stabilized Cu(I) β -diketonate precursor and \geq 1 Cu(II) β -diketonate precursor. The method includes introducing into a deposition chamber: (i) a substrate; (ii) a Cu source precursor in a vapor state including a mixture of \geq 1 ligand-stabilized Cu(I) β -diketonate precursor and \geq 1 Cu(II) β -diketonate precursor; and (iii) \geq 1 transport gas, different from the Cu source precursor. The reaction				

substrate temperature is maintained at .apprx.50-500° for a period of time sufficient to deposit a Cu-based film on the substrate.

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:169322 CAPLUS
DN 132:215703
TI Chemical vapor deposition of copper-based films
IN Kaloyerous, Alain E.; Arkles, Barry C.
PA Gelest, Inc., USA; The Research Foundation of State University of New York
SO U.S., 24 pp.
CODEN: USXXAM

DT Patent
LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6037001	A	20000314	US 1998-157236	19980918
	US 6066196	A	20000523	US 1998-157901	19980921
	WO 2000017278	A1	20000330	WO 1999-US20535	19990908
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9959123	A1	20000410	AU 1999-59123	19990908
	DE 19983591	T	20010816	DE 1999-19983591	19990908
	JP 2002526651	T2	20020820	JP 2000-574181	19990908
PRAI	US 1998-157236	A1	19980918		
	US 1998-157901	A	19980921		
	WO 1999-US20535	W	19990908		
AB	A method for depositing Cu-based films and a Cu source precursor for use in the CVD of Cu-based films are provided. The precursor includes a mixture of ≥1 ligand-stabilized Cu(I) β-diketonate precursor and ≥1 Cu(II) β-diketonate precursor. The method includes introducing into a deposition chamber: (i) a substrate; (ii) a Cu source precursor in a vapor state including a mixture of ≥1 ligand-stabilized Cu(I) β-diketonate precursor and ≥1 Cu(II) β-diketonate precursor; and (iii) ≥1 transport gas, different from the Cu source precursor. The reaction substrate temperature is maintained at .apprx.50-500° for a period of time sufficient to deposit a Cu-based film on the substrate.				

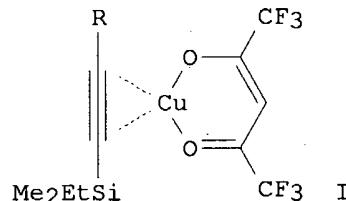
RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1996:331032 CAPLUS
DN 125:142900
TI Alkyne complexes of copper(I) (1,1,1,5,5-hexafluoro-2,4-pentanedionato): syntheses and characterization of (η^2 -bis(trimethylsilyl) acetylene) copper(I) (hfac), (μ - η^2 -bis(trimethylsilyl) acetylene) bis(copper(I) (hfac)) and a series of (η^2 -alkyne) Cu(hfac) complexes
AU Doppelt, Pascal; Baum, Thomas H.
CS IBM Almaden Research Center, 650 Harry Road, San Jose, CA, 95120-6099, USA
SO Journal of Organometallic Chemistry (1996), 517(1-2), 53-62
CODEN: JORCAI; ISSN: 0022-328X

PB Elsevier
 DT Journal
 LA English
 AB The reaction of Cu₂O with 1,1,1,5,5-hexafluoro-2,4-pentanedione (Hhfac) in the presence of alkynes gave (η^2 -alkyne)Cu(hfac). When using bis(trimethylsilyl)acetylene (BTMSA), both a mononuclear compound BTMSACu(hfac) (1) and a dinuclear complex BTMSA(Cu(hfac))₂ (2) can be isolated; each complex was characterized by x-ray crystallog., IR, ¹H and ¹³C NMR spectroscopies. In 1, the BTMSA ligand is η^2 bonded parallel to the Cu (β -diketonate) plane, the trimethylsilyl groups are cis bent away from Cu with small angles of deformation (θ_{CCSi} = 157 and 171°) and the C-Cu bond distance is 1.17 Å. In 2, two BTMSACu(hfac) planes with a dihedral angle of 105.8° are observed. The intramol. Cu-Cu distance is only 2.800 Å and the central axis of BTMSA is situated perpendicular to the Cu-Cu vector.

L5 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1995:890562 CAPLUS
 DN 124:133010
 TI Organic copper compounds for formation of copper films by metalorganic chemical vapor deposition
 IN Uchida, Hiroto; Sai, Atsushi; Sato, Masamitsu; Saito, Noryasu; Ogi, Katsumi
 PA Mitsubishi Materials Corp., Japan
 SO Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07215982	A2	19950815	JP 1994-225168	19940920
	JP 3284779	B2	20020520		
PRAI	JP 1993-233934	A	19930920		
OS	MARPAT 124:133010				
GI					



AB The compds. consist of liquid and pyrolyzable I (R = H, or lower alkyl). The compds have excellent thermal stability and yield Cu films at stable vaporization rate.

L5 ANSWER 10 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1993:570641 CAPLUS
 DN 119:170641
 TI CVD of copper from (β -diketonate)CuLn copper(I) precursors
 AU Chi, Kai Ming; Jain, A.; Hampden-Smith, M. J.; Kodas, T. T.
 CS Dep. Chem., Univ. New Mexico, Albuquerque, NM, 87131, USA
 SO Materials Research Society Symposium Proceedings (1992), 260 (Advanced Metallization and Processing for Semiconductor Devices and Circuits-II), 629-4
 CODEN: MRSPDH; ISSN: 0272-9172

DT Journal
LA English
AB Selective CVD of Cu is the focus of recent research interest as a result of possible applications as vertical interconnect material in multilevel metalization. A variety of Cu(I) and Cu(II) compds. have been used to deposit Cu. In some cases, the compds. selectively deposit Cu on various different surfaces. However, the origin of this selectivity is not unambiguously established at this stage. To derive a better understanding of the CVD processes, Cu(I) compds. (β -diketonate)CuLn were synthesized and used as CVD precursors. The new species (fod)CuL, where fod = 2,2-dimethyl-6,6,7,7,8,8-heptafluoro-3,5-octanedionate and L = PMe₃, 1,5-cyclooctadiene, 2-butyne, bis(trimethylsilyl)**acetylene** and vinyltrimethylsilane are described. The CVD of Cu and factors affecting selective Cu deposition are discussed here.

L5 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1991:632395 CAPLUS
DN 115:232395
TI Synthesis and characterization of (β -diketonato)copper(I) alkyne complexes: structural characterization of (hexafluoroacetylacetonato)(diphenylacetylene)copper(I)
AU Chi, K. M.; Shin, H. K.; Hampden-Smith, M. J.; Kodas, T. T.; Duesler, E. N.
CS Cent. Micro-Eng. Ceram., Univ. New Mexico, Albuquerque, NM, 87131, USA
SO Inorganic Chemistry (1991), 30(23), 4293-4
CODEN: INOCAJ; ISSN: 0020-1669
DT Journal
LA English
OS CASREACT 115:232395
AB (Hfac)Cu(alkyne) [hfac = hexafluoroacetylacetonato, alkyne = bis(trimethylsilyl)**acetylene**, diphenylacetylene (DPA), 2-butyne] were prepared by the reaction of Na(hfac) with CuCl in the presence of an excess of alkyne. These compds. are volatile and can be sublimed at low temps. Mass spectral data are consistent with a monomeric structure for these species, which was confirmed for (hfac)Cu(DPA) by a single crystal x-ray diffraction study. The central copper atom possesses an approx. trigonal planar coordination environment with co-planar Cu- β -diketonate and Cu-alkyne ligands.